

A composite material comprises a three-dimensional textile structure comprising at least two textile layers which are located at a mutual distance and which are mutually connected by looped-round pile-threads. At least one of the textile layers is embedded in a matrix and at least one of the textile layers is vapour/moisture-permeable.

WO 9401272A

WEST Search History

DATE: Tuesday, February 05, 2002

Set Name Query

side by side

Hit Count Set Name

result set

DB=DWPI; PLUR=YES; OP=ADJ

L4 three same dimensional same composite same textile
 same material

21 L4

DB=USPT; PLUR=YES; OP=ADJ

L3 three same dimensional same composite same textile
 same material

58 L3

L2 L1

0 L2

DB=DWPI; PLUR=YES; OP=ADJ

L1 three dimensional composite textile material

0 L1

END OF SEARCH HISTORY

Set Name Query

side by side

Hit Count Set Name

result set

DB=DWPI; PLUR=YES; OP=ADJ

<u>L13</u>	L4 and l8	0	<u>L13</u>
<u>L12</u>	l6 and l7 and l8	0	<u>L12</u>
<u>L11</u>	L8 and l9 and l10	0	<u>L11</u>
<u>L10</u>	hydrophobic same woven same layer	168	<u>L10</u>
<u>L9</u>	hydrophilic same woven same layer	188	<u>L9</u>
<u>L8</u>	linking same threads	243	<u>L8</u>
<u>L7</u>	hydrophilic same layer	11136	<u>L7</u>
<u>L6</u>	hydrophobic same layer	4910	<u>L6</u>

DB=USPT; PLUR=YES; OP=ADJ

<u>L5</u>	5616391	1	<u>L5</u>
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DB=DWPI; PLUR=YES; OP=ADJ

<u>L4</u>	three same dimensional same composite same textile same material	21	<u>L4</u>
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DB=USPT; PLUR=YES; OP=ADJ

<u>L3</u>	three same dimensional same composite same textile same material	58	<u>L3</u>
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<u>L2</u>	L1	0	<u>L2</u>
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DB=DWPI; PLUR=YES; OP=ADJ

<u>L1</u>	three dimensional composite textile material	0	<u>L1</u>
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END OF SEARCH HISTORY

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Terms	Documents
L4 and l8	0

Database:

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Search:

L13

[Refine S](#)[Recall Text](#)[Clear](#)**Search History****DATE:** **Tuesday, February 05, 2002** [Printable Copy](#) [Create Case](#)

WEST[Generate Collection](#)[Print](#)**Search Results - Record(s) 1 through 1 of 1 returned.**☐ 1. Document ID: US 5616391 A Relevance Rank: 99

LS: Entry 1 of 1

File: USPT

Apr 1, 1997

US-PAT-NO: 5616391DOCUMENT-IDENTIFIER: US 5616391 A

TITLE: Composite material and a composite structure based on a three-dimensional textile structure

DATE-ISSUED: April 1, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Amesz, Willem	St. Martens			BEX
Van Raemdonck, Joris K. M.	Bazel			BEX
De Meyer, Willy	Gent			BEX
Verpoest, Ignace H. J. M.	Kessel-Lo			BEX

US-CL-CURRENT: 428/71; 428/304.4, 428/309.9, 428/314.4, 428/92, 442/315, 442/318, 442/319

ABSTRACT:

The invention relates to a composite material comprising a three-dimensional textile structure which comprises at least two textile layers which are located at a mutual distance and which are mutually connected by looped-round pile threads, and at least one matrix with which at least this textile layer is provided, and a vapour/moisture-permeable textile layer contacting the body.

20 Claims, 0 Drawing figures

Exemplary Claim Number: 1,6

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	MM	Draw Desc	Image
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Terms	Documents
5616391	1

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L4: Entry 10 of 21

File: DWPI

Jun 19, 2001

DERWENT-ACC-NO: 1998-430090

DERWENT-WEEK: 200140

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TITLE: Composite textile material for protecting human body from extremes of heat - comprises three-dimensional fabric with outer moisture resistant and inner absorbent layers, and intermediate ventilated layer

INVENTOR: BOYE, P

PRIORITY-DATA: 1997FR-0001342 (February 6, 1997)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 2001508142 W	June 19, 2001		016	D03D025/00
FR 2758948 A1	August 7, 1998		014	A41D031/00
WO 9834505 A1	August 13, 1998	F	000	A41D013/00
AU 9861056 A	August 26, 1998		000	A41D013/00
EP 957695 A1	November 24, 1999	F	000	A41D013/00

INT-CL (IPC): A41 D 13/00; A41 D 31/00; A41 D 31/02; D03 D 25/00

ABSTRACTED-PUB-NO: FR 2758948A

BASIC-ABSTRACT:

The textile material comprises an outer layer (1) of a moisture resistant fabric, an inner layer (4) of woven or knitted moisture absorbing fibres, and an intermediate layer (4) with connecting filaments (5), through which air can circulate.

The outer layer of the material can have a waterproof coating (2), e.g. of polyurethane, and the intermediate layer can have forced ventilation, or natural ventilation created by the movements of the wearer. The inner layer can be, for example, of polyester, polyamide or polyacetate fibres, treated to make them moisture absorbing.

ADVANTAGE - Simple design with increased heat resistance.

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L4: Entry 14 of 21

File: DWPI

Mar 1, 2000

DERWENT-ACC-NO: 1994-034859

DERWENT-WEEK: 200018

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TITLE: Protective composite textile material for helmet or limb protector - comprises vapour permeable body contact layer and looped pile threads connecting spaced layers of impregnated textile, layer formed from polyester film for impact resistant stiff low wt. composite

INVENTOR: AMESZ, W; VAN RAEMDONCK, J K M ; VERPOEST, I H J M ; DE MEYER, W

PRIORITY-DATA: 1992BE-0000649 (July 13, 1992)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
ES 2140460 T3	March 1, 2000		000	B29C070/00
WO 9401272 A1	January 20, 1994	E	013	B29C067/14
BE 1006090 A4	May 10, 1994	F	014	B29C000/00
EP 726843 A1	August 21, 1996	E	000	B29C067/14
JP 08501735 W	February 27, 1996		017	B29C070/10
US 5616391 A	April 1, 1997		005	B32B001/02
EP 726843 B1	November 3, 1999	E	000	B29C070/00
DE 69326962 E	December 9, 1999		000	B29C070/00

INT-CL (IPC): B29 C 0/00; B29 C 67/14; B29 C 70/00; B29 C 70/10; B32 B 1/02; B32 B 1/06; B32 B 5/22; B32 B 5/28; D03 D 11/00; D04 B 1/00

ABSTRACTED-PUB-NO: EP 726843B

BASIC-ABSTRACT:

Composite textile material has a vapour or moisture permeable body contact layer, and comprises looped pile threads connecting two spaced textile layer of which at least one has matrix material pref. thermosetting or thermoplastic material, an elastomer, or inorganic material e.g. deposited metal.

The knitted layers fibres are pref. glass, polyester, C, aramid or their combinations, and filling material between the layers is pref. open-cell foam. Looped pile threads density is 10-1000 per sq. cm. and two of the composite structures are superposed and joined as by looping, weaving or stitching, e.g. for helmets mfr. USE/ADVANTAGE - Used for helmets, limb protectors, seats, stretchers, corsets, and mattresses. Stiff low wt. composite textile resists impacts.

ABSTRACTED-PUB-NO:

US 5616391A EQUIVALENT-ABSTRACTS:

Composite textile material has a vapour or moisture permeable body contact layer, and comprises looped pile threads connecting two spaced textile layer of which at least one has matrix material pref. thermosetting or thermoplastic material, an elastomer, or inorganic material e.g. deposited metal.

The knitted layers fibres are pref. glass, polyester, C, aramid or their combinations, and filling material between the layers is pref. open-cell foam. Looped pile threads density is 10-1000 per sq. cm. and two of the composite structures are superposed and joined as by looping, weaving or stitching, e.g. for helmets mfr. USE/ADVANTAGE - Used for helmets, limb protectors, seats, stretchers, corsets, and mattresses. Stiff low wt. composite textile resists impacts.